REMARKS

In response to the Office Action dated September 8, 2006, Applicants respectfully request reconsideration and withdrawal of the rejections of the claims. The allowance of claims 18 and 19 is noted with appreciation.

Claims 1-15 and 20-23 were rejected under 35 U.S.C. § 101, as being directed to a computer implemented method of calculation, or a computer program stored in a computer-readable medium for implementing the method. To clarify that the claims are not directed to a method of calculation, per se, but rather a practical application of the disclosed method, claims 1, 5 and 21 have been amended to explicitly recite that the input values being processed, and the output values resulting therefrom, pertain to a media signal. For example, as disclosed in the specification, the disclosed techniques can be applied to gamma correction of the pixels in a displayed image, and the decoding of audio files.

It is respectfully submitted that the claims, as amended, are directed to a useful, concrete and tangible result of the disclosed techniques, and therefore recite statutory subject matter as defined in 35 U.S.C. § 101. Withdrawal of the rejection is respectfully requested.

Claims 1-4 were rejected under 35 U.S.C. § 103, on the basis of the Simanapalli et al. patent (US 6,002,726) in view of the Noetzel patent (US 5,068,816). Claims 5-8, 10-14, 16, 17 and 20-22 were rejected under 35 U.S.C. § 103, on the basis of these two patents in further view of the Budge patent application publication (US 2003/0195907).

In rejecting claims 1-4, the Office Action alleges that the Simanapalli patent discloses a Chebyshev minimax polynomial approximation of a power function. It is

respectfully submitted that the Simanapalli patent does not pertain to the approximation of a power function. Rather, the disclosure at column 4, lines 35-45 (cited in the Office Action) relates to the approximation of a direct *division* operation of the form 1/x. It is respectfully submitted that a person of ordinary skill in the art would not consider this type of operation to be a power function, as that term is normally understood in the art.

More significantly, while it is appropriate to assume that the use of a Chebyshev approximation of a mathematical function is within the level of skill in the art, it is respectfully submitted that such an observation only pertains to the existence of the approximation itself, and not the actual application of such an approximation to a power function having a non-integral exponent, such as $x^{1/1.8}$. In order to do so, the singularity of the function needs to be taken into account over the entire data range of interest. In accordance with the disclosed technique, this is accomplished through piecewise approximations over a series of contiguous intervals. Furthermore, to ensure efficient computation, the piecewise intervals are not uniform. Their length is chosen to yield an error which is less than or equal to a desired threshold. Preferably, the approximation error is about the same within each interval, through suitable adjustment of the lengths of the intervals, and possibly also the order of the approximating polynomial.

In rejecting the claims, the Office Action relies upon the Noetzel patent for its disclosure of segmented, or piecewise, approximation. As can be seen in Figures 2a-2c, the segments are of uniform length. Consequently, the error values for different segments can vary greatly, as depicted in Figures 2b and 2c.

In contrast, the present application discloses that more efficient computation is achieved by having the error within each of the approximation intervals match one another. To do so, the lengths of the intervals are individually chosen, rather than being all of the same magnitude.

It is respectfully submitted that the Simanapalli and Noetzel patents do not disclose the subject matter of the currently pending claims, whether considered individually or in combination. For instance, claim 1 recites that the length of each interval is individually defined so that the approximation of the function over that interval by its corresponding polynomial has an error less than the predetermined threshold for all of the intervals. It is respectfully submitted that the Noetzel patent does not disclose *individual* determination of the lengths of segments to meet a defined threshold. Rather, it simply discloses increasing the number of segments to reduce the overall error of a linear approximation.

The Budge publication was cited for its disclosure of computing approximations in a vector processing system. It is respectfully submitted, however, that this disclosure does not overcome the distinctions between the claimed subject matter and the disclosures of the Simanapalli and Noetzel patents, discussed above. For at least these reasons, therefore, it is respectfully submitted that all pending claims are patentably distinct from the cited references.

In addition to the differences recited in the independent claims, it is respectfully submitted that other distinctions are set forth in various dependent claims. For example, claim 7 recites that the polynomials and ranges are determined such that the maximum error between the output values and the power function is approximately equal for each of the ranges. It is noted that the Office

Action does not address this subject matter, even though the claim was rejected. As pointed out previously, the Noetzel patent does not disclose that the approximation error is approximately equal for each of its segments. It is respectfully submitted that claim 7, as well as new claims 26 and 28, are patentably distinct for this additional reason.

In view of the foregoing, it is respectfully submitted that all pending claims are patentable over the prior art of record. Reconsideration and withdrawal of the rejections, and allowance of all claims is respectfully requested.

Respectfully submitted,

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